

Chesterfield County's Storm Management Program

What is Stormwater Pollution?

When rain falls or snow melts, water washes over our driveways, yards, parking lots, roads, fields and construction sites. Much of this water does not soak into the ground and is called **stormwater runoff**. It picks up all kinds of pollutants and carries them into our streams, either directly or through the storm drainage system.

The stormwater drainage system is not like the wastewater system, which carries water from our kitchens, bathrooms and washing machines through the *sanitary sewers* to be treated at the Proctor's Creek or Falling Creek wastewater plants.

Instead, stormwater is carried through a separate network of ditches and pipes that *empty directly into water bodies*, including the Swift Creek Reservoir, the Lake Chesdin Reservoir and the James River—Chesterfield County's drinking water sources.

In many areas, stormwater runoff is one of the major causes of surface water pollution.

Managing Stormwater Pollution

Every city, town or suburb faces challenges in managing stormwater runoff.

Chesterfield County is aggressively addressing the problem of stormwater pollution, by working in a variety of ways to reduce industrial, agricultural and residential pollutants in our waters. The county is working hard to make sure our stormwater management complies with the requirements of the federal Clean Water Act.

For example, the county's Department of Environmental Engineering enforces **ordinances** for erosion and sedimentation control on construction sites, Chesapeake Bay Preservation,

Pollutants in Stormwater

Most drivers know that roads are slick during the first few minutes of a rainstorm. That's because the rainwater is mixing with **oils** and **grease** deposited on the pavement by cars and trucks. After an hour of rain, the roads are not so slippery because the oil and dirt have been washed away.

Stormwater runoff also washes **topsoil, pesticides** and **fertilizers** from construction sites, farm fields, gardens and lawns.

Pet waste or **farm animal waste, leaves** and **lawn clippings** can bring bacterial contamination to the stormwater runoff mix.

Another source of stormwater pollution is **people**, who dump these and other materials directly into storm drains or drainage ditches.

flood plain management and development in the Upper Swift Creek Watershed—all of which help to keep stormwater pollution out of our streams and reservoirs.

The Department's Water Quality Section implements a comprehensive stormwater and surface water quality program. Some new elements of that program include:

- Working with industrial facilities to minimize stormwater pollution from their operations
- Controlling illicit discharges into stormwater systems and streams



- Developing maintenance procedures for County facilities and roadways that will reduce the pollutants in stormwater runoff
- Increasing public awareness of water quality issues, by providing speakers for organized groups and events, displays in public places, and publications like this fact sheet

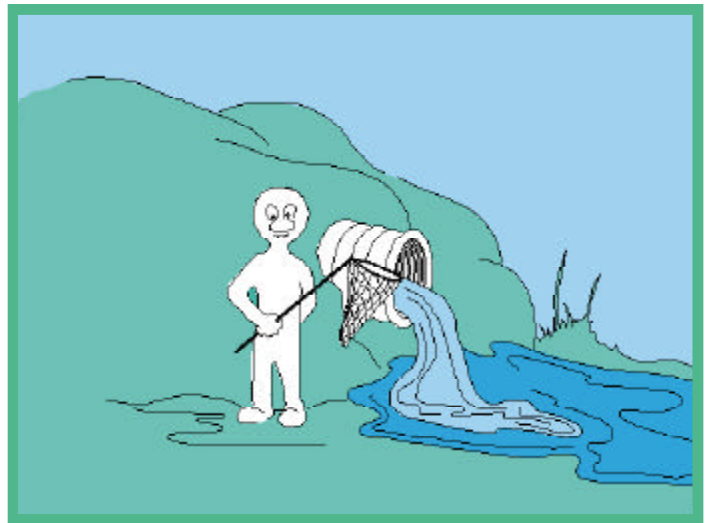
The Water Quality Section also oversees the maintenance of stormwater ponds and related structures—sometimes called **Best Management Practices**, or BMPs— which prevent flooding and remove pollutants from stormwater. This program ensures that BMPs are operating properly.

By participating in Chesterfield County's **Leaf Collection** and **Safe Garage** programs, county citizens can dispose of yard wastes and common household products—like paint, solvents, used oil, antifreeze and pesticides—in ways that won't pollute our waters.



Monitoring Water Quality

The Water Quality Section tests samples of stormwater during four storm events per year. The data is used to estimate both the *types and amount of pollutants* in the county's stormwater and the *volume of stormwater* being discharged into our water bodies.



The samples include stormwater runoff from different types of land use, such as agriculture, residential and commercial development. The tests look for pollutants like:

- Oil and grease
- Metals
- Phosphorus
- Nitrogen
- Bacteria

The Water Quality Section also conducts annual *biological surveys* in many of the county's streams. These surveys:

- Check on physical conditions in the streams
- Monitor water quality of the streams
- Assess the biological health of the streams

In addition, trained *citizen volunteers* are helping the county assess the health of other streams near their communities by collecting and identifying aquatic insects.

*To become a volunteer **Stream Watcher**, or to learn more about preventing stormwater pollution, call Joan Salvati or Scott Flanigan at (804) 748-1035.*

This is the first in a series of fact sheets about surface water quality issues in Chesterfield County. Copies are available in the Department of Environmental Engineering offices at 6806 West Krause Road. This fact sheet discusses the problem of stormwater pollution and describes the county's stormwater management program. Future fact sheets will describe specific parts of the program or talk about other environmental issues in Chesterfield County.

The series is produced by the Water Quality Section of the Department of Environmental Engineering. Our mission is to protect, maintain and restore the chemical, physical and biological integrity of Chesterfield County's waters in order to enhance the quality of life for county citizens.

For more information, call 804-748-1035.

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